System Development Engineer Interview Questions

1. Describe methods you have found effective to monitor or calibrate automated systems, industrial control systems, or system components to maximize efficiency of production.
2. What factors do you consider when designing self-monitoring mechanical systems, such as gear systems that monitor loading or condition of systems to detect and prevent failures?
3. Walk me through how you would design or develop automated control systems for environmental applications, such as waste processing, air quality, or water quality systems.
4. Name a time when you published engineering reports documenting design details or qualification test results.
5. How often have you provided consultation or training on topics such as mechatronics or automated control?
6. What is the most challenging part of overseeing the work of contractors in accordance with project requirements?
7. What methods have you found helpful when analyzing existing development or manufacturing procedures and suggest improvements? Share an example.
8. Walk me through how you would research, select, or apply sensors, communication technologies, or control devices for motion control, position sensing, pressure sensing, or electronic communication.
9. Share your approach to identify and select materials appropriate for mechatronic system designs.
10. What kind of experience do you have designing, developing, or implementing control circuits or algorithms for electromechanical or pneumatic devices or systems?
11. Share an example when you created mechanical models and tolerance analyses to simulate mechatronic design concepts.
12. What are your skills when creating embedded software design programs? Share an example.
13. Describe methods you have found useful when conducting studies to determine the feasibility, costs, or

performance benefits of new mechatronic equipment?
14. Describe an experience when you developed electronic, mechanical, or computerized processes to perform tasks in dangerous situations, such as underwater exploration or extraterrestrial mining.
15. What is the most challenging part of designing mechatronics components for computer-controlled products, such as cameras, video recorders, automobiles, or airplanes?
16. Tell me about the last time you applied mechatronic or automated solutions to the transfer of materials, components, or finished goods.